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Graham et al.(10) **Pub. No.: US 2020/0061185 A1**(43) **Pub. Date: Feb. 27, 2020**(54) **PREFUSION CORONAVIRUS SPIKE
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College, Hanover, NH (US)**(21) Appl. No.: **16/344,774**(22) PCT Filed: **Oct. 25, 2017****ABSTRACT**

Coronavirus S ectodomain trimers stabilized in a prefusion conformation, nucleic acid molecules and vectors encoding these proteins, and methods of their use and production are disclosed. In several embodiments, the coronavirus S ectodomain trimers and/or nucleic acid molecules can be used to generate an immune response to coronavirus in a subject. In additional embodiments, the therapeutically effective amount of the coronavirus S ectodomain trimers and/or nucleic acid molecules can be administered to a subject in a method of treating or preventing coronavirus infection.

Specification includes a Sequence Listing.